

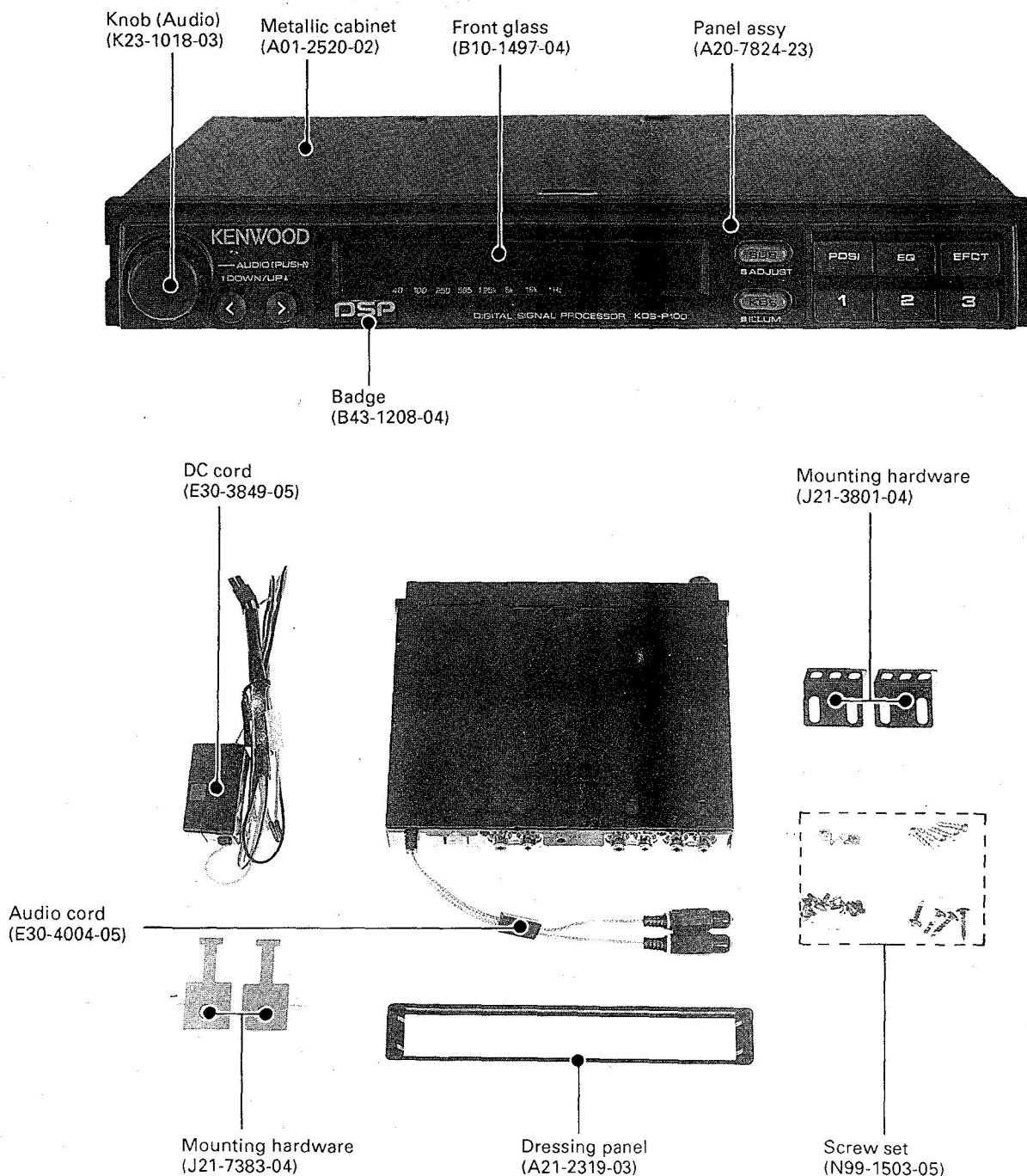
DIGITAL SIGNAL PROCESSOR

KDS-P100

SERVICE MANUAL

KENWOOD

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B51-6477-00(O)3791



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SPECIFICATIONS	BACK COVER

The diagram illustrates the signal processing and power supply architecture of the X25-4880 (X29-2320) system. It is divided into two main functional blocks: (X25-4880) and (X29-2320).

Signal Flow and Processing:

- Input:** The system receives an **IN** signal, which is processed by **IC3** (ISO. AMP).
- Processing:** The signal then passes through **IC4,5** (INV. and NON. INV.), **IC1** (ADC), **IC2,3** (PHASE ADJ.), and **IC4** (DSP).
- Output Channels:** The DSP output is split into **FRONT** and **REAR** channels. The **REAR** channel also includes a **REAR** output for a subwoofer.
- Channel Processing:** Each channel (FRONT and REAR) has its own set of processing blocks:
 - FRONT Channel:** Includes **IC11** (ANALOG FILTER), **IC10** (ANALOG FILTER), **IC9** (DAC), **IC8** (DAC), **IC7** (LPF), **IC6** (E.VOL), **IC5** (MUTE), and **IC4** (E.VOL).
 - REAR Channel:** Includes **IC13** (E.VOL), **IC12** (LPF), **IC11** (E.VOL), **IC10** (MUTE), **IC9** (E.VOL), **IC8** (LPF), **IC7** (E.VOL), and **IC6** (MUTE).
 - SUB WOOFER Channel:** Includes **IC18,19** (LPF (50,80,120)), **IC17** (E.VOL), **IC16** (L/R MIX), and **IC15** (MUTE).
- Control and Monitoring:** The system includes a **KEY** input, **ILLM CONT.** (ILLUMINATION CONTROL), **IC14** (SYS-μ-COM), and **IC5** (CONTROL μ-COM). A **DISPLAY** is connected to **IC15** (LCD DRIVER).
- Power Supply:** The system is powered by a **B. UP** (Battery Up) source, which provides **GND**, **P-CON**, and **ILLM** (ILLUMINATION) signals. The power supply section includes:
 - Q1,2** (DET.) - Detection circuit.
 - Q3** (A 8V) - 8V regulator.
 - Q5** (A 5V) - 5V regulator.
 - Q8** (D 5V) - 5V regulator.
 - Q24** (ILLM IIV) - Illumination control circuit.
 - Q25** (μ-COM 5V) - 5V regulator for micro-computer.

CIRCUIT DESCRIPTION

1. Description of components

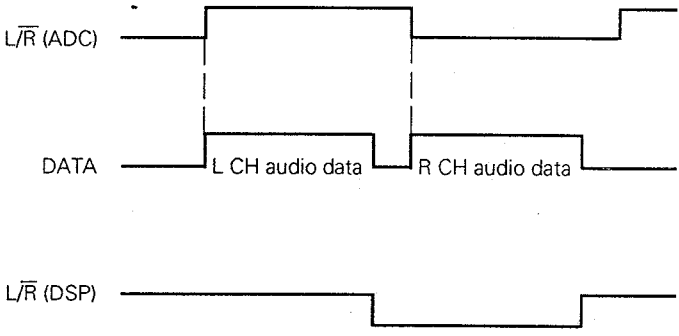
1-1. ELECTRIC UNIT: X25-4880-60

Ref No.	Use / Function	Operation / Condition
IC1, 2	AVR driver	Output +5V to the collectors of Q5 and Q8 using external resistors (R98, 99, 100, 107, 108, 109).
IC3	Isolation	Isolates noise penetrated through input G.
IC4, 5	Invert and non-invert buffers	Generate the in-phase and anti-phase signals to meet the differential input configuration of the A/D converter.
IC6	1/2 Power	Generates the mid-point voltage for analog circuitry and the mid-point voltage for A/D converter.
IC7, 8	LPF	Attenuates the components above the audible range (above 20kHz) from the D/A converted signal.
IC9 ~ 12	E.VOL buffer	External buffers for IC13 and 14.
IC13, 14	VOL (main)	Controls the output level according to the data from the SYS-COM.
IC15, 16	E.VOL buffers	External buffer for IC17, front L/R mixing buffer.
IC17	VOL (sub-woofer)	Controls the output level according to the data from the SYS-COM.
IC18, 19	Sub-woofer	LPF with cut-off frequencies at 50/80/120Hz. The cut-off control signal is transferred from the SYS-COM (refer to the circuit diagram).
Q1, 2	P.CON detector	Detect power ON/OFF. When the bases are "H", the collectors go "L".
Q3	A8V AVR	Generates A8V.
Q4, 6, 9	AVR driver	When Q2 is ON, turned ON to control the AVR ON/OFF.
Q5	A5V AVR	Generates A5V.
Q7	A8V AVR driver	When Q4 is ON, drives Q3.
Q8	D5V AVR	Generates D5V.
Q10	ILLM AVR driver	When Q11 is turned ON, turns Q24 ON/OFF.
Q11	ILLM detector	Detects the illumination ON/OFF. Turned ON when the base goes "H".
Q12, 13	Muting driver control	Turned ON when the bases go "H".
Q14, 15	Muting driver	When Q12 and 13 are ON, turned ON to output the back-up voltages at the collectors.
Q16, 17	Cut-off frequency control	Control is based on 4 bits, the combination of 2 bits, "H" and "L", of the base of each. (For the function, refer to the circuit diagram.)
Q18 ~ 22	Muting	Muting is applied when the bases are "H".
Q23	ILLM AVR driver	Drives Q24.
Q24	ILLM AVR	When Q23 is ON, outputs 10.4V at the collector.
Q25	μ -COM 5V AVR	Outputs 5V for the μ -com at the emitter.
Q26, 27	Muting driver control (For momentary OFF)	Controls Q28 according to ON/OFF of Q26 and 27. (Q26 ON : Q27 OFF, Q28 OFF. Q26 OFF : Q27 and 28 ON.)
Q28	Muting driver	When turned ON by Q26 and 27, outputs 5V at the collector.

1-2. CONTROL UNIT: X29-2320-60

Ref No.	Use / Function	Operation / Condition
IC1 (CS5349-KS)	A/D converter	Performs over-sampling of analog input signal with a rate of 64 times the f_s ($=44.1\text{kHz}$), and outputs the full-scale, 16 bit audio digital signal at the bit rate of f_s ($=44.1\text{kHz}$). Used in the master mode. * The data format is MSB-first, LRCK front-justified.

CIRCUIT DESCRIPTION

Ref No.	Use / Function	Operation / Condition
IC2 (TC74HC00AF) IC3 (TC74HC74AF)	L/R clock restriking (phase adjustment)	Restrikes the L/R clock to meet the input data format of the DSP IC (LC83010NEGHI), which is LRCK rear-justified. 
IC4 (LC83010NEGHI)	High-speed processor	Based on the data from the control 2 μ -com (LC66516B-4987), applies signal processing to the audio input data to provide it with the DSP effect.
IC5 (LC66516B-4987)	DSP IC control μ -com	Controls the DSP IC by sending the data corresponding to the mode specified by the SYS-COM.
IC6, 7 (MSM51C464 AP-80JS)	Memory	External memory used by the DSP IC to store data temporarily before signal processing. Capable of storing 4 bits of data in each address of the 256K. Used in the page mode.
IC8, 9 (TC9237BF)	1 bit D/A converter	Converts 16 bit audio data into 1 bit data.
IC10, 11 (TA2009F)	Analog filter for 1 bit D/A converter	Converts the 1 bit data output from the TC9237BF into analog signal.
IC12	Reset IC for D5V detection	When D5V drops below 4.5V, turns the SYS-COM port "L".
IC13	Reset IC for B-UP detection	When VDD of the SYS-COM drops below 3.6V, turns the reset port of the SYS-COM "L" to reset the SYS-COM.
IC14 (75008GB- 702-3B4)	SYS-COM	•Power ON detection (Active "L") •Momentary OFF detection (Active "L") •E.VOL, DSP control μ-com and LCD driver control •Muting control (Active "L") •Key recognition •Buzzer output
IC15 (LC7582E)	LCD driver	Drives the LCD display based on the data from the SYS-COM.
Q1	Beep buffer	Amplifies the beep sound from the μ -com.
Q2, 3	Muting control	When the hardware is reset, turned ON to turn the bases of Q4 and Q5 Low.
Q4, 5	Muting driver	When the bases are turned Low, output 5V at the collectors.
Q6	Hardware reset detector	When the hardware is reset, the base is turned Low so 5V is output at the collector.
Q7	Reset transistor	When the base is High, discharges C52 and resets the SYS-COM.
Q8, 10	ILLM switching	When Q9 or Q11 is turned ON, the collector of Q8 or Q10 generates voltage to light up the illumination (for AMB and GRN).
Q9, 11	ILLM selection	Q9 or Q11 is turned ON when its base is High.
Q12	Muting	When the base is Low, outputs 5V at the collector to mute the D/A converter.
Q13, 14	Dimmer control	When 0.6V is applied to the bases, turned ON to short-circuit R26 and R27.
Q15	Dimmer detection	When the base is High, turned ON to turn Q13 and Q14 OFF.
Q16, 17	VOL control rotation detection	When the rotary encoder is turned, turned ON to output 5V at the collector.
Q18	Small detection	When the base is High, turned ON to drop the collector voltage to 0V.

CIRCUIT DESCRIPTION

2. Operation specifications

2-1. Features

Graphic equalizer modes

- EQ curve controls (6)

Bands : 7-bands, Level : +12 ~ -12dB (2dB step)

Pops (POP) Loudness (LOU) Classic (CLA)

Jazz (LIV) Vocal (VOC) Flat (OFF)

Hall simulation modes

- Hall simulation modes (8)

Bypass (OFF) Concert (CON) Jazz club (CLB)

Stadium (STA) Disco (DNC) Surround (SUR)

Church (CHU) Minus one (V-C)

- Hall simulation fine adjustments (5)

Each hall simulation effects can be adjusted from 0 ~ 100% in 25% steps (5 steps)

- Delay time

The delay time can be adjusted in 20 steps starting from 0ms (0 ~ 100msec).

Position modes (5)

Center (ALL) Front right (F-R) Front left (F-L)

Front center (F) Rear center (R)

- Position fine adjustments (5)

No fine adjustment

Fine adjustment toward the front

Fine adjustment toward the rear

Fine adjustment toward the right

Fine adjustment toward the left

Other features

- Sub-woofer

SUB.W ON/OFF switching

When SUB.W is ON, the cut-off frequency can be switched in 3 steps (50, 80, 120Hz)

When SUB.W is ON, the SUB.W volume can be adjusted independently.

- Illumination

Switchable in 2 colors; amber and green.

- KBS (KENWOOD BUILT-IN SOUND)

The KBS is an integrated function of the Hall simulation, Position and Graphic Equalizer features.

- User preset features

- Volume control

•Balance /fader adjustments (invalid in other positions than the ALL position).

2-2. Microcomputer and destinations

Microcomputer used : NEC μ PD75008GB

DESTINATIONS : J, K, E

2-3. Test mode

The test mode can be initiated by performing reset while holding preset memory keys (1) and (3).

Test mode contents

1. LCD all-indicator ON (Can be canceled by pressing any key).
2. The Full-Boost curve is set in user preset memory No.1, and the Full-Cut curve is set in No.3.

2-4. Key functions

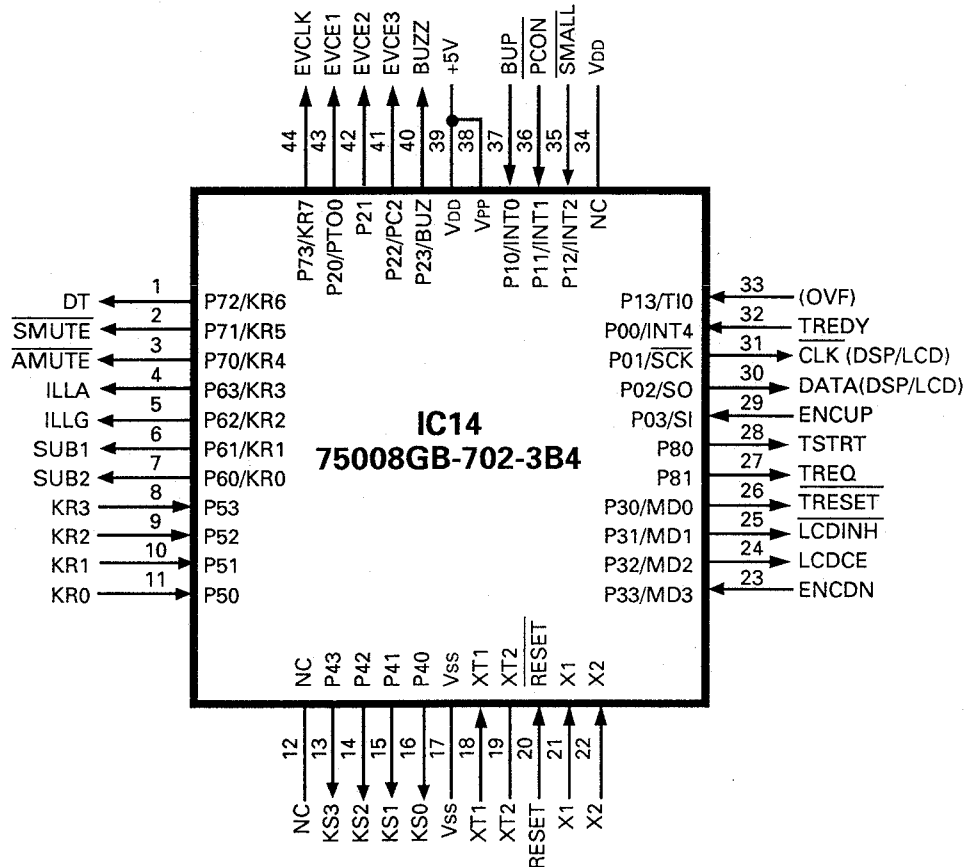
4. Key Functions

KEYS	MODE						
	NORMAL	EQ	HALL	POSITION	BAL	FAD	SUB WOOFER
	Invalid	EQ band down	DELAY time down	Invalid	Invalid	Invalid	SUB.W cut-off freq down
	Invalid	EQ band up	DELAY time up	Invalid	Invalid	Invalid	SUB.W cut-off freq up
ENC-DOWN	VOL down	EQ level down	Level down	All fine-adjustments are to be performed with the encoder.	Left	Front	SUB.W VOL down
ENC-UP	VOL up	EQ level up	Level up		Right	Rear	SUB.W VOL up
AUDIO	Audio signal supply. VOL CONT→BAL CONT→FAD CONT→VOL CONT. The Balance control is bypassed in other positions than the ALL position.						
E	EQ curve selection (POPS, LOUD, CLA, LIV, VOC, OFF).  EQ curve adjustment mode ON/OFF.						
H	HALL effect selection (CON, STA, CLB, CHU, DNC, SUR, V-C).  Delay time /Hall effect level adjustment mode ON/OFF.						
P	Position selection (ALL, F-R, F-L, F, R).  Position fine-adjustment mode ON/OFF.						
SUB	Sub-woofer ON/OFF.  Cut-off frequency/level adjustment mode ON/OFF.						
KBS	KBS ON/OFF.  Illumination Amber/Green.						
	KBS ON	KBS preset No.1.					
	KBS OFF	USR preset No.1   USR preset memory					
	KBS ON	KBS preset No.2					
	KBS OFF	USR preset No.2   USR preset memory					
	KBS ON	KBS preset No.3					
	KBS OFF	USR preset No.3   USR preset memory					

CIRCUIT DESCRIPTION

3. System Control : 75008GB-702-3B4 (X29-2320-60) IC14

3-1. Pin connection



3-2. Pin functions

Pin no.	Pin name	I/O	Name	Function	State at Power OFF
1	P72/KR6	O	DT	E.VOL data (Front /Rear/S.W).	L
2	P71/KR5	O	SMUTE	Sub-woofer muting, active "L".	"L" within 15sec, "H" after 15sec.
3	P70/KR4	O	AMUTE	Analog muting, active "L".	"L" within 15sec, "H" after 15sec.
4	P63/KR3	O	ILLA	Illumination "Amber", active "H".	L
5	P62/KR2	O	ILLG	Illumination "Green", active "H".	L
6	P61/KR1	O	SUB1	S.W cut-off frequency switching terminal 1.	L
7	P60/KR0	O	SUB2	S.W cut-off frequency switching terminal 2.	L
8	P53	I	KR3	Key return 3.	-
9	P52	I	KR2	Key return 2.	-
10	P51	I	KR1	Key return 1.	-
11	P50	I	KR0	Key return 0.	-
12	NC		NC	Connected to VDD.	
13	P43	O	KS3	Key scan 3, active "H".	L
14	P42	O	KS2	Key scan 2, active "H".	L
15	P41	O	KS1	Key scan 1, active "H".	L
16	P40	O	KS0	Key scan 0, active "H".	L
17	Vss		Vss	Connected to GND.	
18	XT1	I	XT1	Not used (Connected to GND).	
19	XT2		XT2	Not used (open).	
20	RESET	I	RESET	Reset input, active "L".	

CIRCUIT DESCRIPTION

Pin no.	Pin name	I/O	Name	Function	State at Power OFF
21	X1	I	X1	Connection terminal of X'tal oscillator for main system clock.	
22	X2	I	X2	Connection terminal of X'tal oscillator for main system clock.	
23	P33/MD3	O	ENCD	When "H" of pin 23 is detected before "H" of pin 29→Downward direction.	-
24	P32/MD2	O	LCDCE	LCD driver chip enable.	L
25	P31/MD1	O	LCDINH	LCD display inhibit, active "L".	L
26	P30/MD0	O	TRESET	DSP reset output, active "L".	L
27	P81	O	TREQ	DSP transfer request terminal.	L
28	P80	O	TSTRT	DSP transfer start instruction terminal.	L
29	P03/SI	I	ENCU	When "H" of pin 29 is detected before "H" of pin 23→Upward direction.	-
30	P02/SO	O	DATA	DSP/LCD data line.	-
31	P01/SCK	O	CLK	DSP/LCK clock line.	-
32	P00/INT4	I	TREDY	DSP data transfer ready (permission) input terminal.	-
33	P13/TIO	I	OVF	Overflow detection terminal, active "H".	-
34	NC	I	NC	Connected to VDD.	
35	P12/INT2	I	SMALL	Small input, active "L".	-
36	P11/INT1	I	PCON	Power control input, active "L".	-
37	P10/INT0	I	BUP	Back-up input.	-
38	Vpp		Vpp	Connected to VDD.	
39	VDD		VDD	Positive power supply terminal.	
40	P23/BUZ	O	BUZZ	Buzzer output.	L
41	P22/PC2	O	EVCE3	S.W E.VOL (TC9176P) chip enable.	L
42	P21	O	EVCE2	Rear E.VOL (TC9176P) chip enable.	L
43	P20/PTO0	O	EVCE1	Front E.VOL (TC9176P) chip enable.	L
44	P73/KR7	O	EVCLK	E.VOL CLK.	L

KDS-P100

CIRCUIT DESCRIPTION

4. DSP Control : LC66516B-4987 (X29-2320-60) IC5

Scope

These specifications apply to the interface between the system control microcomputer and DSP control microcomputer of the DSP (C-0823).

4-1. General

The unit is composed of two microcomputers, the system control microcomputer and DSP control microcomputer, and the DSP. The system control microcomputer handles the operation key inputs and state display functions, and transmits instruction data to the DSP control microcomputer based on the judgements

on the key input contents. It also controls the power supply circuitry, etc. The DSP control microcomputer determines the instruction data received from the system microcomputer, and loads the specified programs onto the DSP.

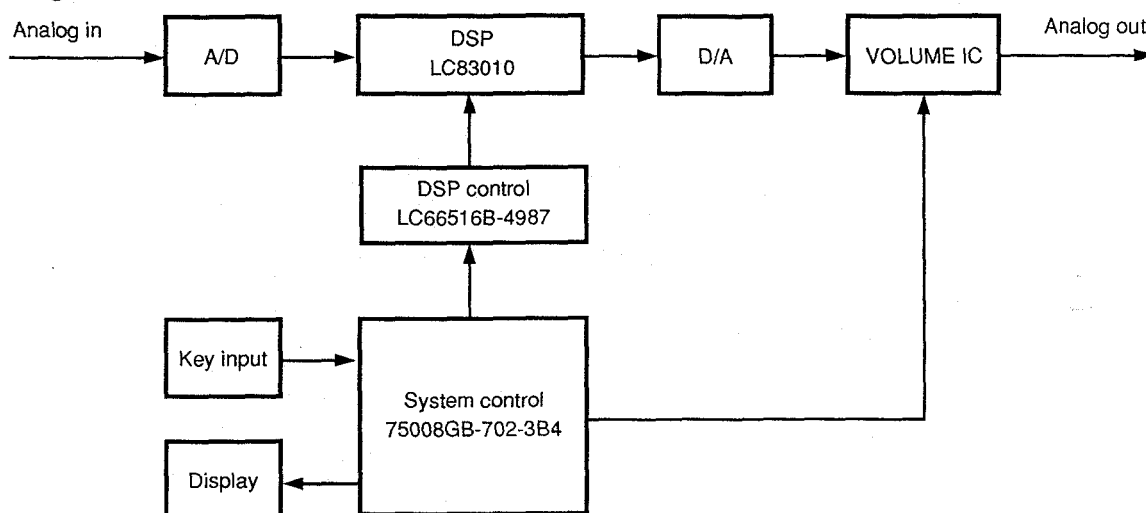
The memory back-up is applied only to the system control microcomputer, which transmits the last status data to the DSP control microcomputer when the power is turned ON.

DSP : LC83010

DSP control microcomputer : LC66516B-4987

System control microcomputer : μ PD75008GB

4-2. Block diagram



4-3. Function

DSP IC control

According to the instructions obtained through communications with the system control microcomputer, data is sent to the DSP IC to control the following modes.

•Hall simulation

Bypass (DSP through)	Concert	Jazz club
Stadium	Disco	Surround
Church	Minus one (Vocal cut)	

The level of each effect can be fine-adjusted in 5 steps.

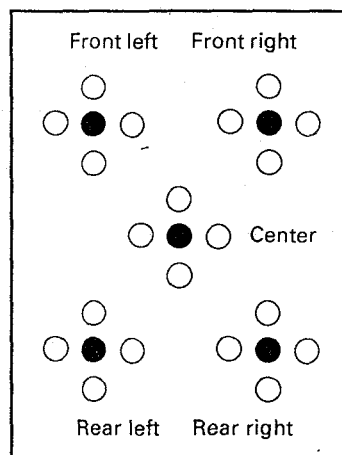
The delay time of each effect can be fine-adjusted in 30 steps (preliminary).

•Positions

5 modes : Center, Front right, Front left, Front center, Rear center

Each of the positions above can be fine-adjusted toward the front, rear, left and right.

- : Original positions of Center, Front right, Front left, Front center, Rear center.
- : Fine-adjustment positions on the front, rear, left and right of each position.



↑ Car traveling direction

CIRCUIT DESCRIPTION

- Graphic equalizer

Frequency bands : 7 bands

Level : $\pm 12\text{dB}$ (2dB steps, 13 points)

The center frequencies of the 7 bands are 40Hz, 100Hz, 250Hz, 600 (585)Hz, 1.2 (1.25) kHz, 5kHz and 16kHz.

Note : Figures inside () are exact frequencies.

- Other features

Extension port control

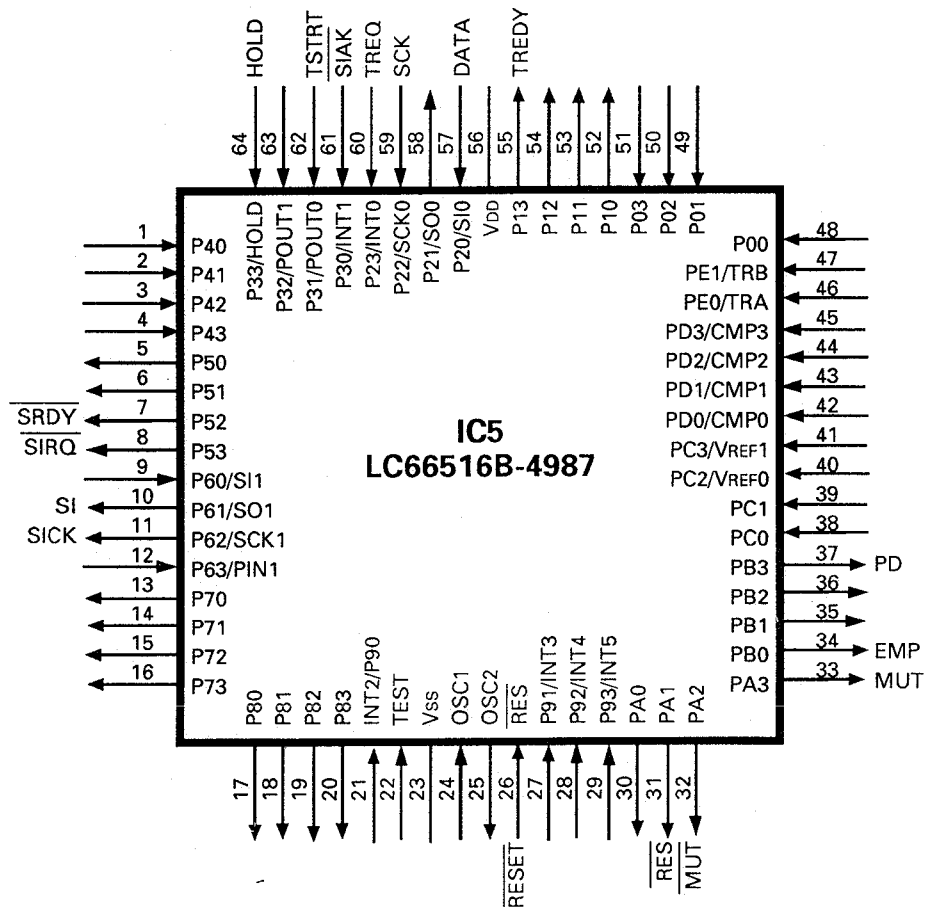
The port outputs of the DSP control microcomputer

can be varied according to the instructions from the system control microcomputer.

Interface

Communication with system control microcomputer with the system control microcomputer acting as the master and the DSP control microcomputer acting as the slave, one-way communication from the master to the slave is performed. The communications are synchronized with the clock and use variable-length data of 8xN bits.

4-4. Pin connection



CIRCUIT DESCRIPTION

4-5. Pin functions

Pin no.	Pin name	I/O	Name	Function
1~4	P40~43	I		Connected to GND (not used).
5, 6	P50, 51	O (OD)		Connected to GND (not used), outputs "H".
7	P52	O (PU)	$\overline{\text{SRDY}}$	Ready signal indicating the end of serial data output to LC83010.
8	P53	O (PU)	$\overline{\text{SIRQ}}$	Terminal requesting LC83010 to output serial data.
9	SI1/P60	I		Connected to GND (not used).
10	SO1/P61	O (PU)	SI	Serial data output to LC83010.
11	SCK1/P62	O (PU)	SICK	Serial synch clock to LC83010.
12	PIN1/P63	I		Connected to GND (not used).
13~16	P70~73	O (OD)		Connected to GND (not used), outputs "H".
17~20	P80~83	O (OD)		Connected to +5V (not used), outputs "H".
21	P90/INT2	I		Connected to GND (not used).
22	TEST	I		Connected to GND.
23	Vss	-		
24	OSC1	I		4.19MHz oscillator connection terminal.
25	OSC2	O		
26	$\overline{\text{RES}}$	I	$\overline{\text{RESET}}$	Reset input.
27~29	P91/INT3~P93/INT5	I		Connected to GND (not used).
30	PA0	O (OD)		Connected to GND (not used), outputs "L".
31	PA1	O (PU)	$\overline{\text{RES}}$	Reset output to LC83010.
32	PA2	O (PU)	$\overline{\text{MUT}}$	Muting output (-).
33	PA3	O (PU)	MUT	Muting output (+).
34	PB0	O (PU)	EMP	Extension port output.
35, 36	PB1, 2	O (PU)		
37	PB3	O (PU)	PD	
38, 39	PC0, 1	I		Connected to GND (not used).
40, 41	PC2/VREF0, PC3/VREF1			
42~45	PD0/CMP0~PD3/CMP3			
46, 47	PE0/TRA, PE1/TRB			
48~51	P00~P03	I		Connected to GND (not used), outputs "L".
52~54	P10~12	O (OD)		Connected to GND (not used), outputs "L".
55	P13	O (PU)	TREDY	Communication permission output to system control microcomputer.
56	VDD	-		Connected to +5V.
57	P20/SIO	I	DATA	Serial data input from system control microcomputer.
58	P21/SO0	O (OD)		Connected to GND (not used).
59	P22/SCK0	I	SCK	Serial clock input from system control microcomputer.
60	P23/INT0	I	TREQ	Communication handshake input from system control microcomputer.
61	P30/INT1	I	SIK	Terminal indicating serial input from LC83010.
62	P31/POUT0	I	TSTR	Communication start input from system control microcomputer.
63	P32/POUT1	I		Connected to GND (not used).
64	P33/HOLD	I	HOLD	Pulled up to +5V, the HOLD mode is not used.

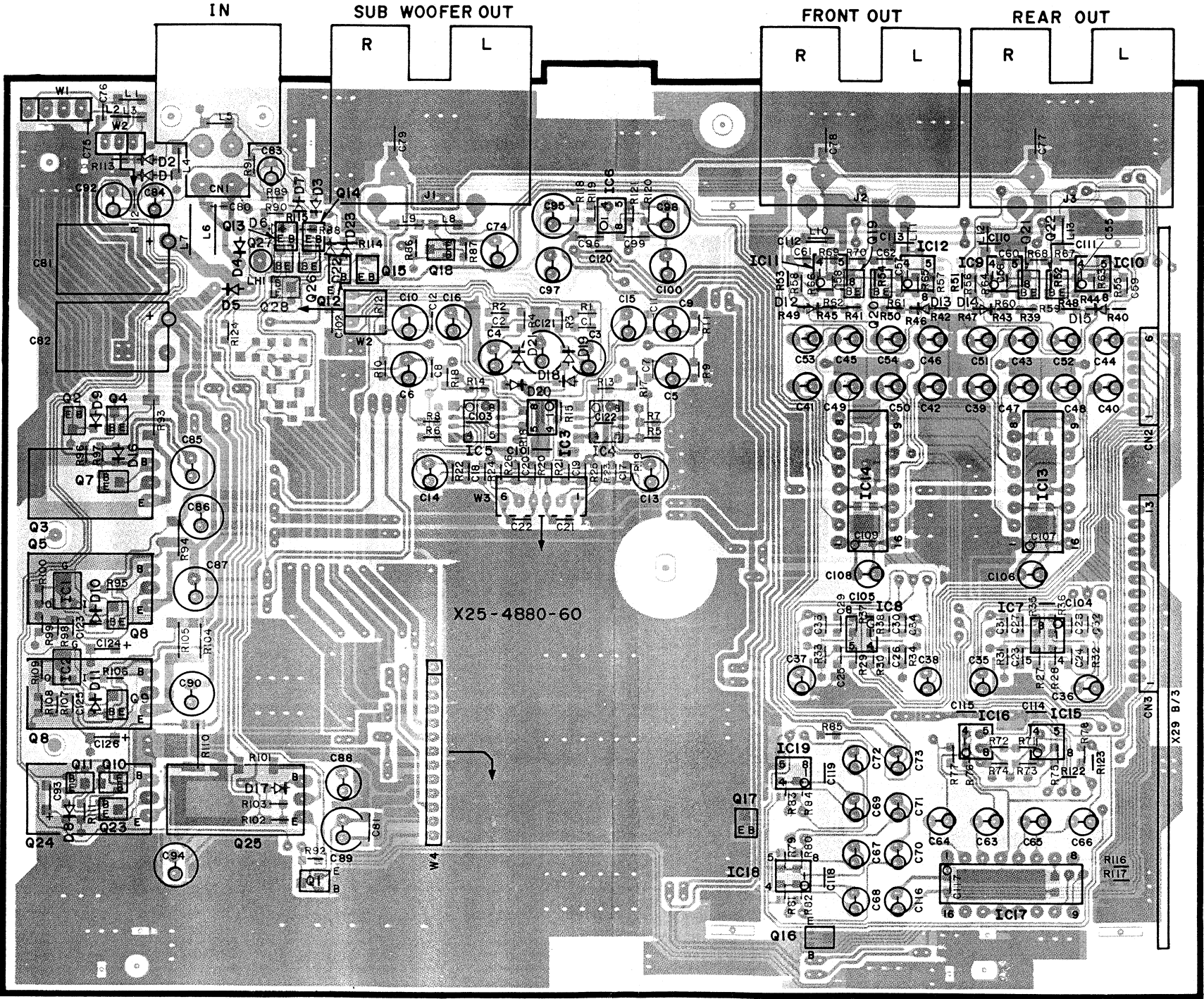
Note : The I/O ports which are marked "I" output "H".

1
2
3
4
5
6
7

11

PC BOARD (FOIL SIDE VIEW)

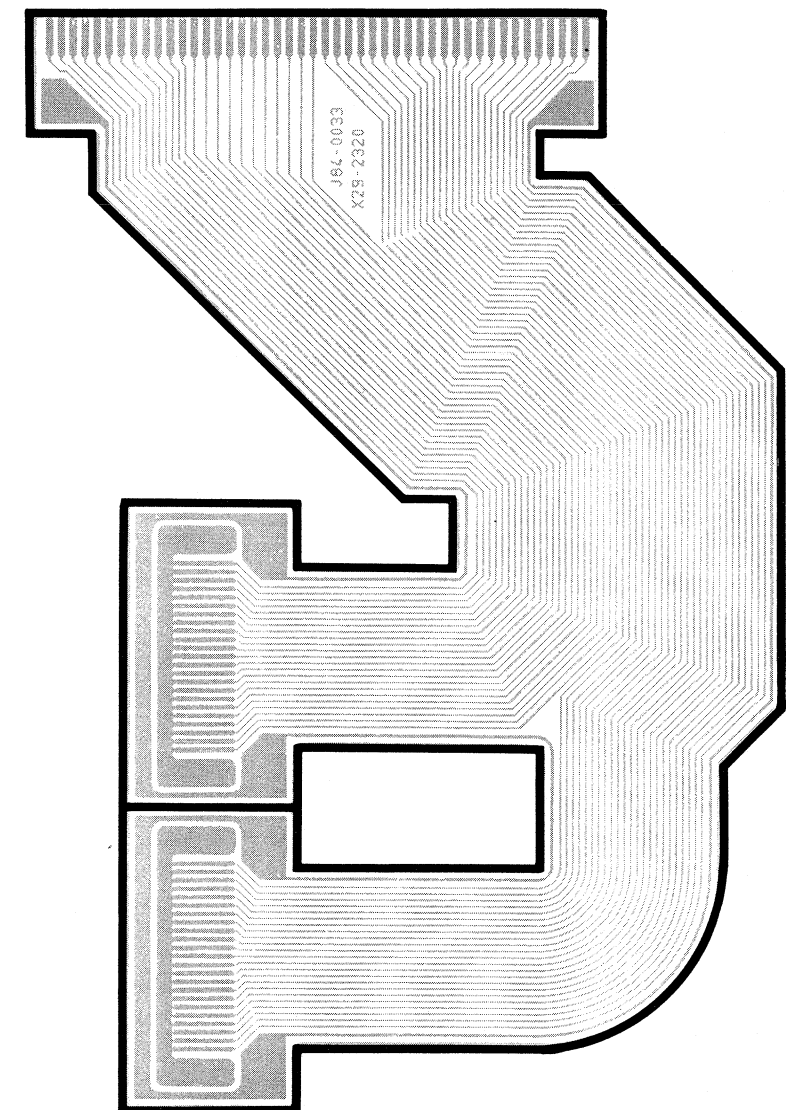
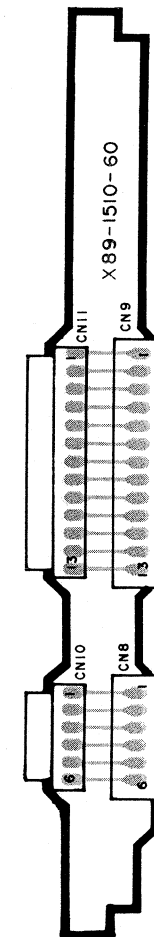
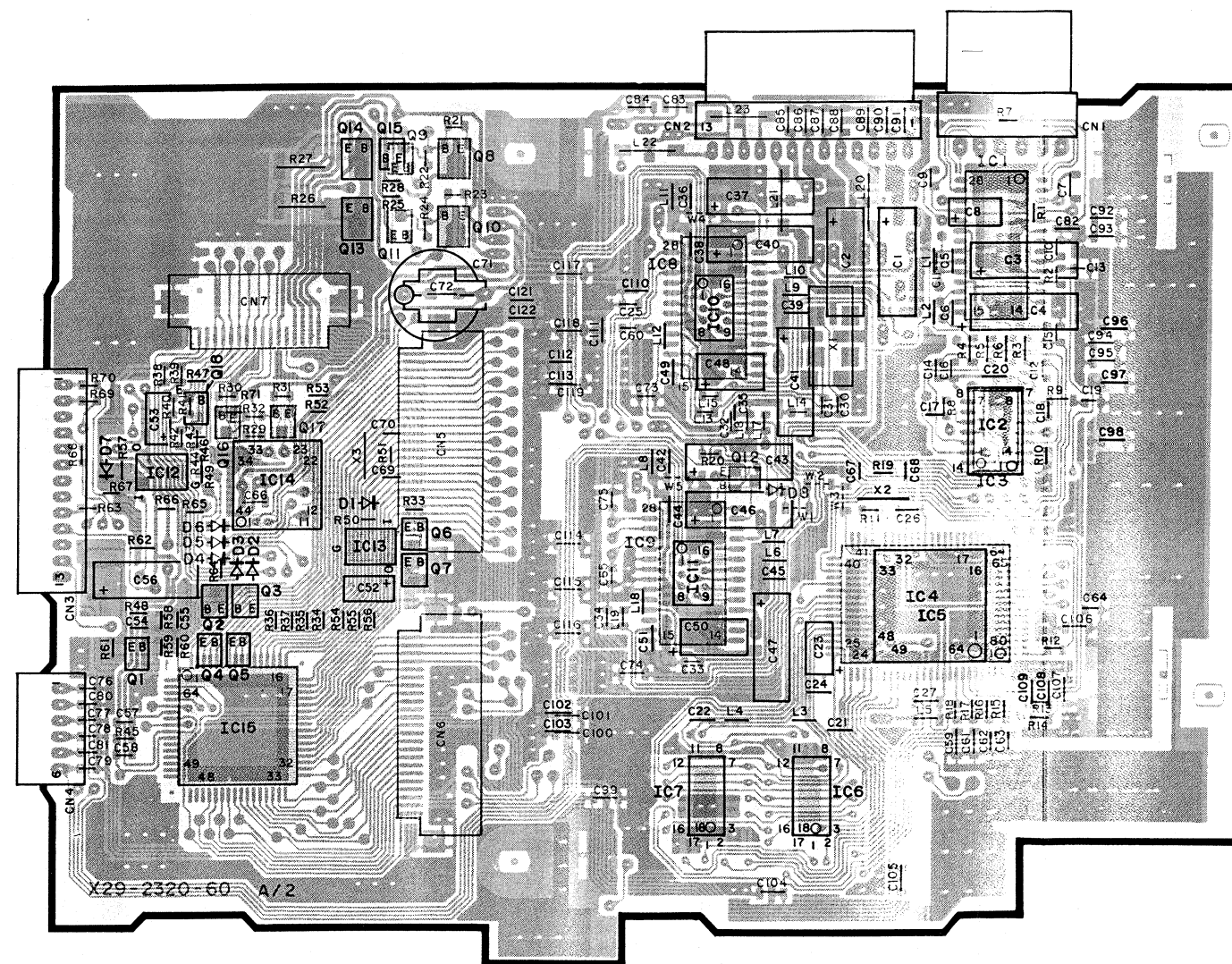
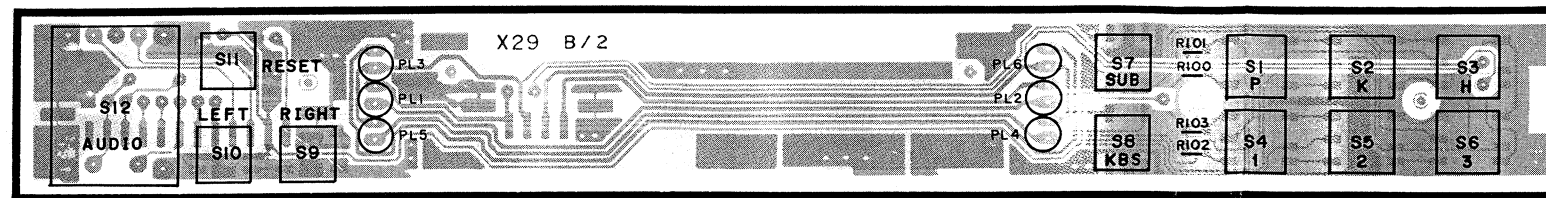
ELECTRIC UNIT
(X25-4880-60)



Refer to the schematic diagram for the values of resistors and capacitors.

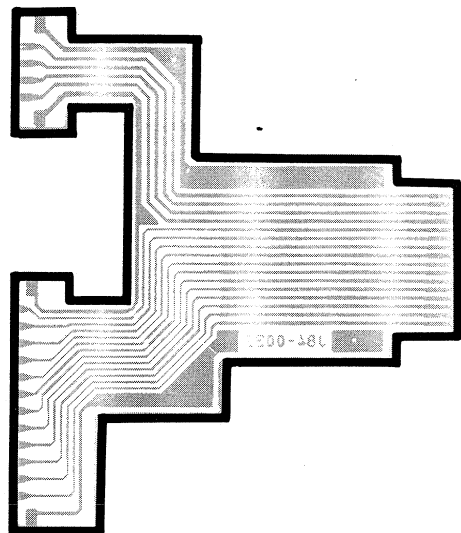
PC BOARD (COMPONENT SIDE VIEW)

CONTROL CIRCUIT UNIT
(X29-2320-60)

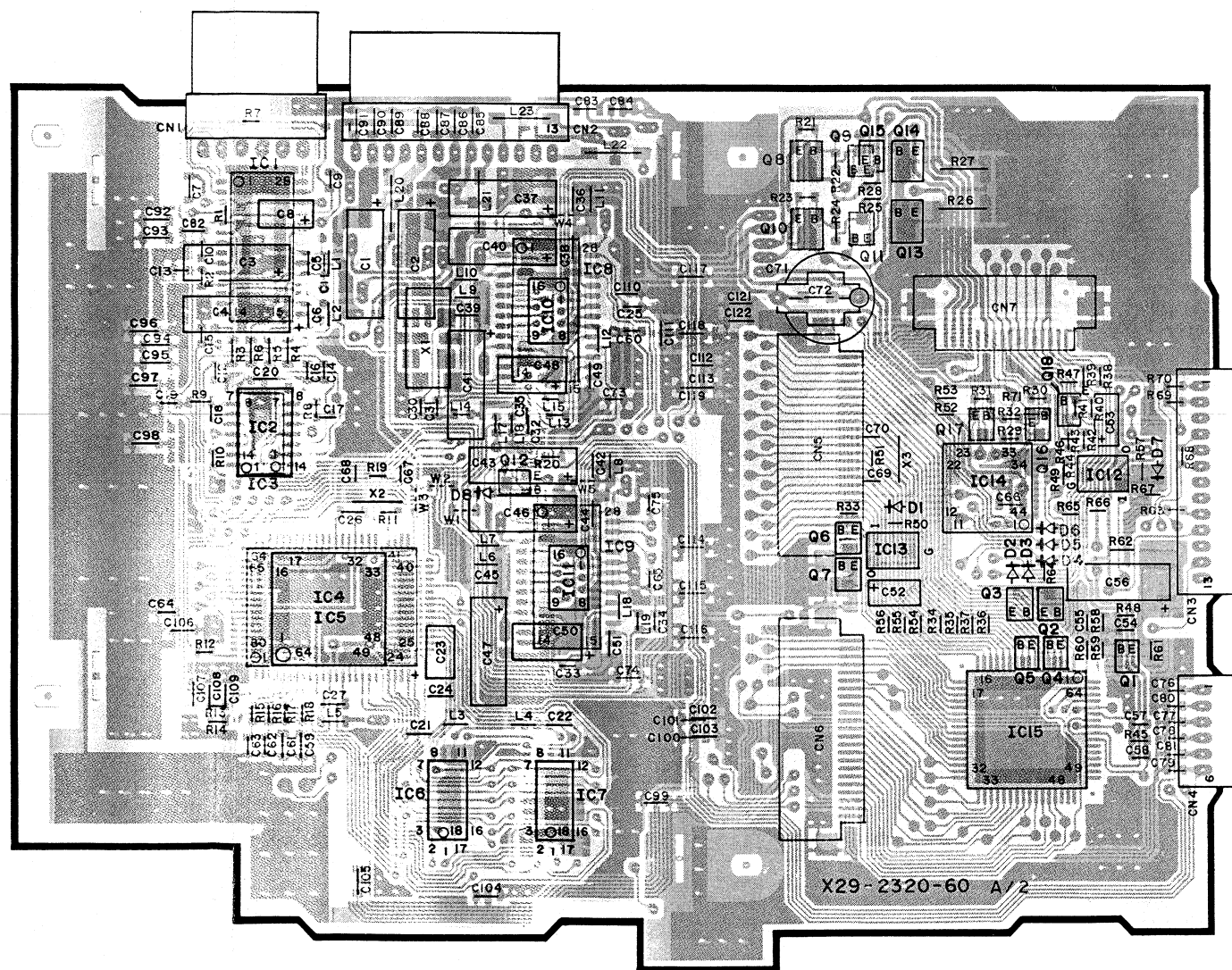
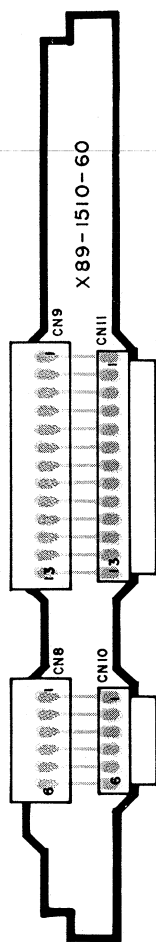
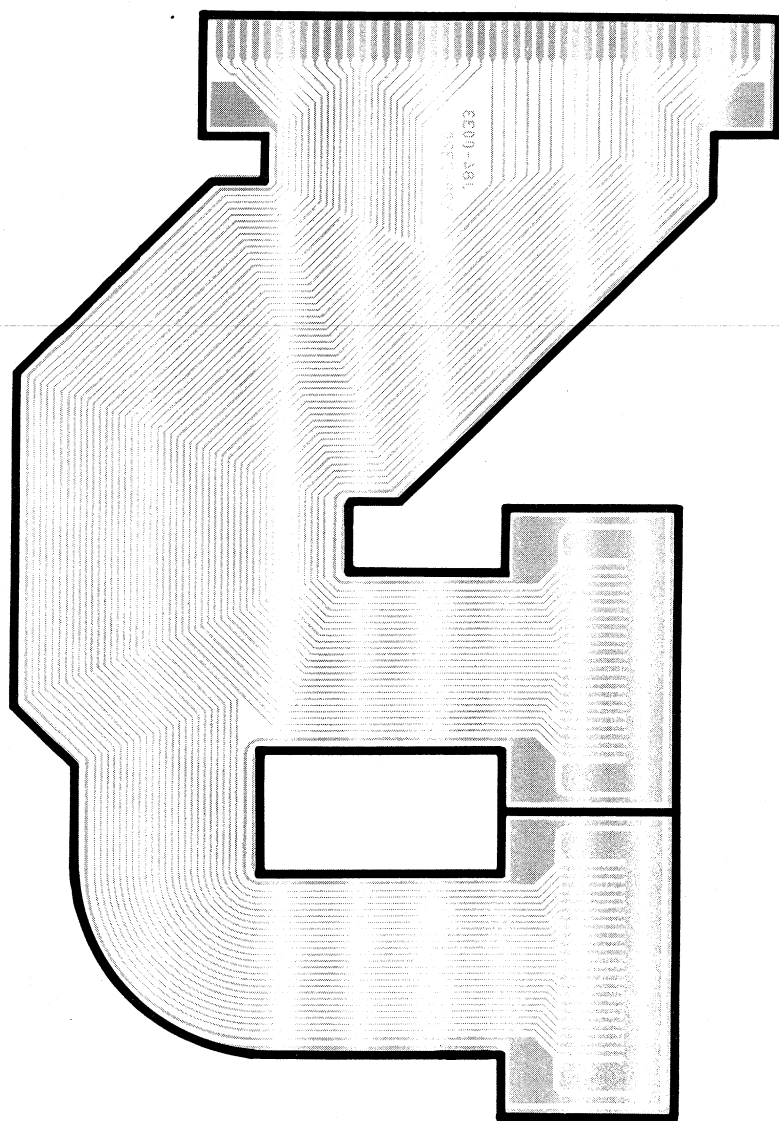
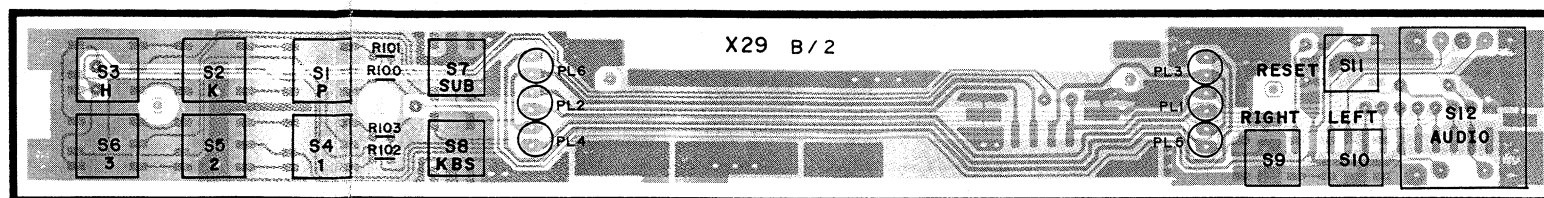


Refer to the schematic diagram for the values of resistors and capacitors.

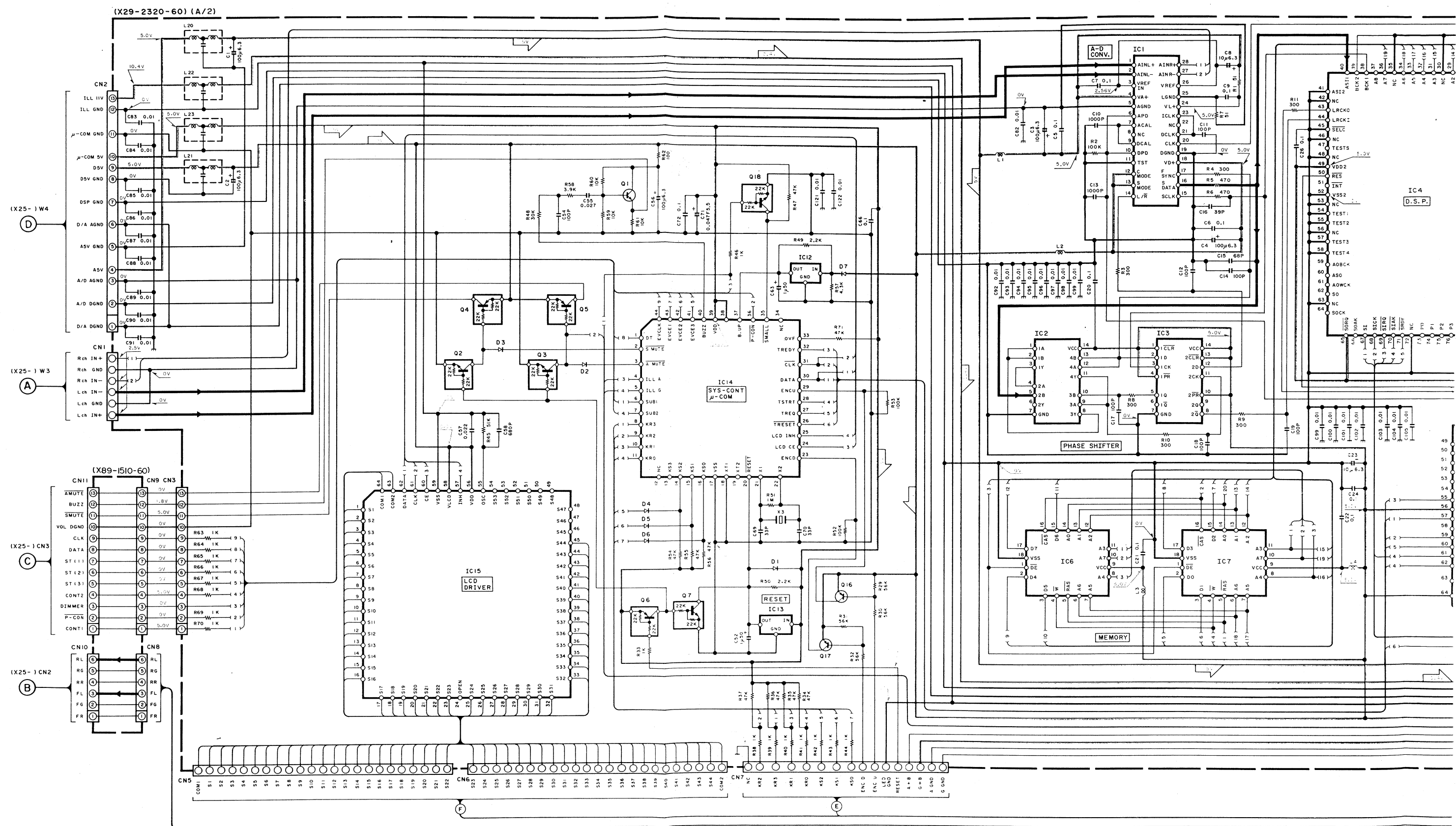
PC BOARD (FOIL SIDE VIEW)

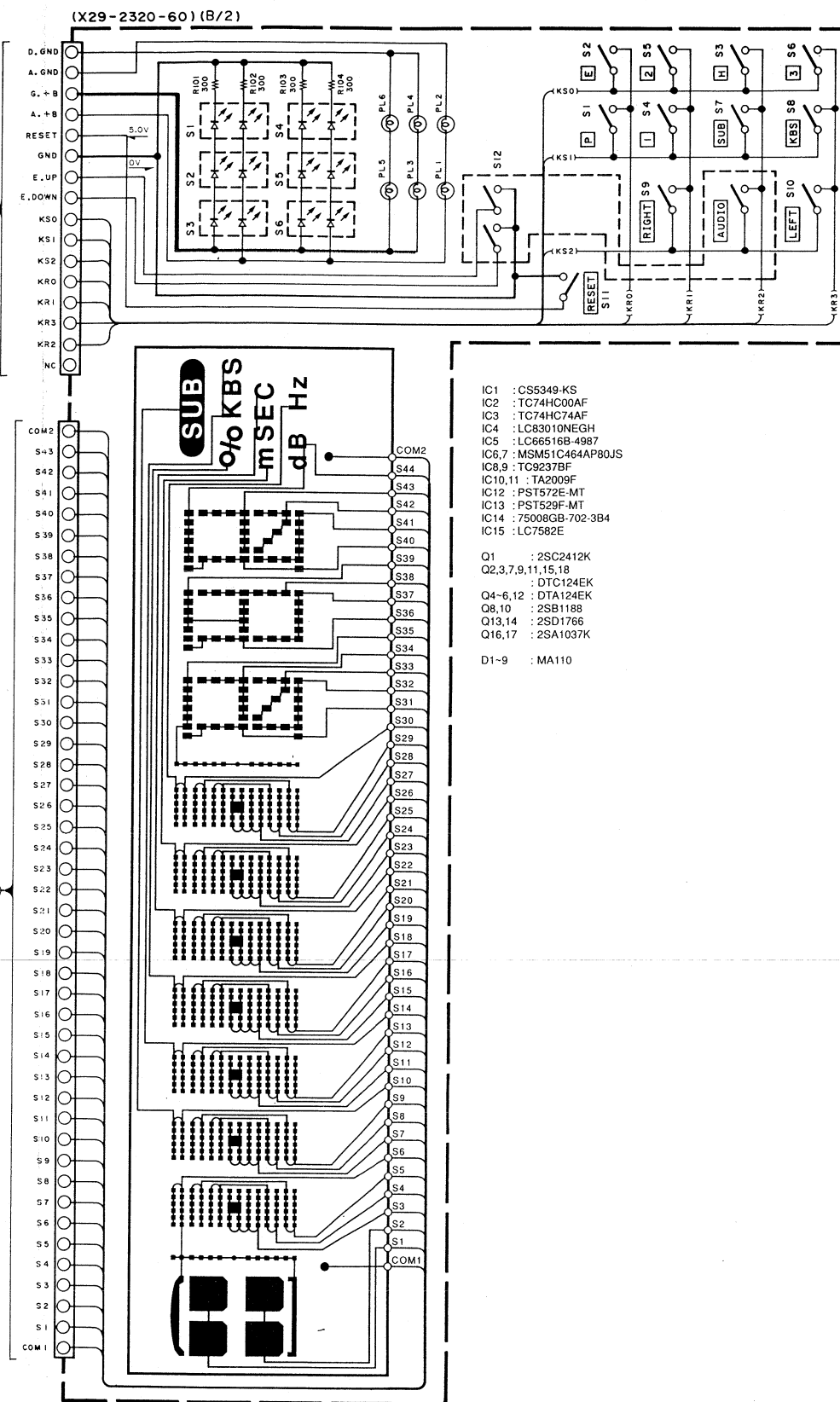
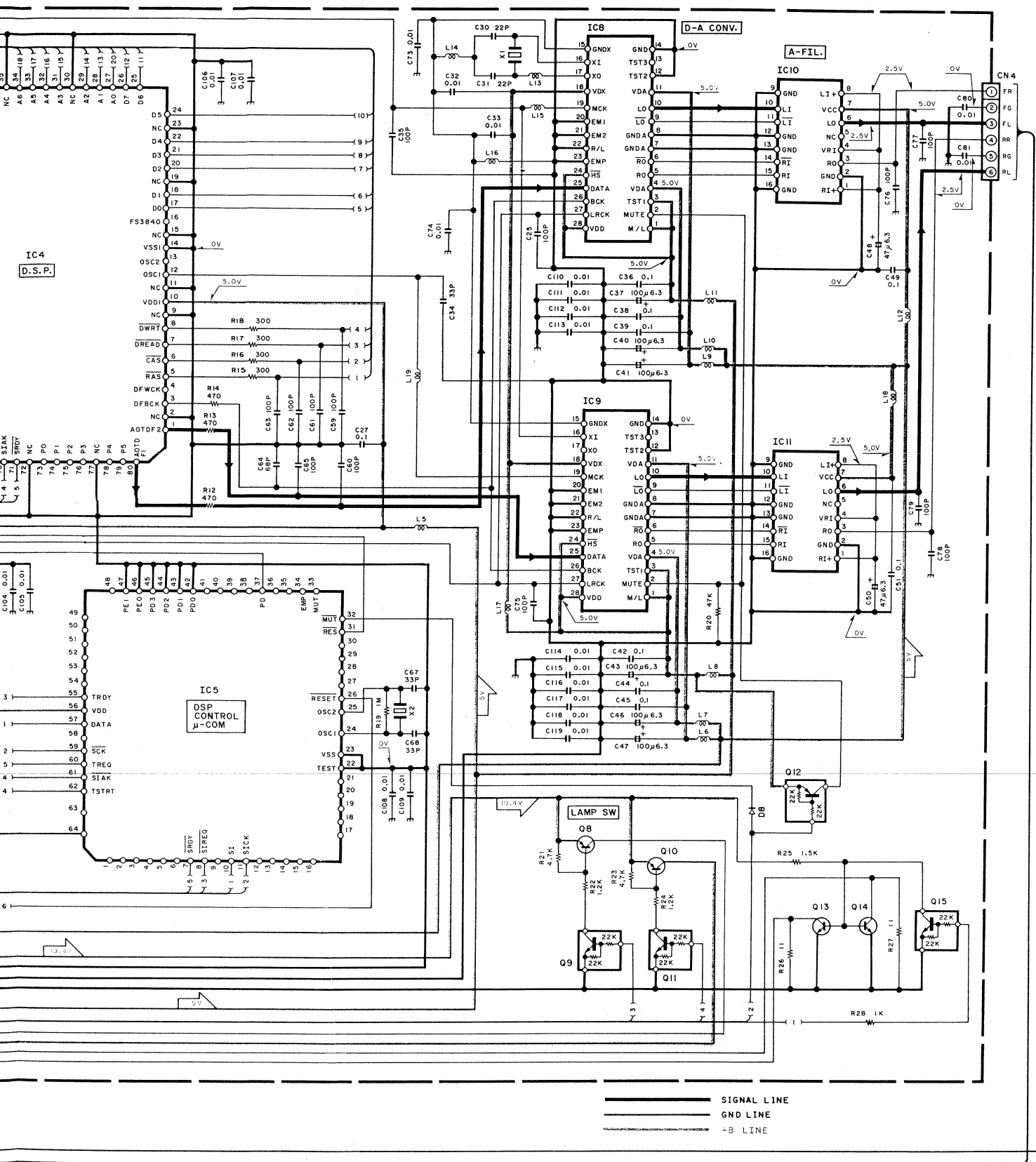


CONTROL CIRCUIT UNIT
(X29-2320-60)



Refer to the schematic diagram for the values of resistors and capacitors.





- IC1 : CS5349-KS
 IC2 : TC74HC00AF
 IC3 : TC74HC74AF
 IC4 : LC83010NEGH
 IC5 : LC86516B-4987
 IC6,7 : MSM51C464AP80JS
 IC8,9 : TC9237BF
 IC10,11 : TA2009F
 IC12 : PST572E-MT
 IC13 : PST529F-MT
 IC14 : 75008GB-702-3B4
 IC15 : LC7582E
- Q1 : 2SC2412K
 Q2,3,7,9,11,15,18 : DTC124EK
 Q4-6,12 : DTA124EK
 Q8,10 : 2SB1188
 Q13,14 : 2SD1766
 Q16,17 : 2SA1037K
- D1-9 : MA110

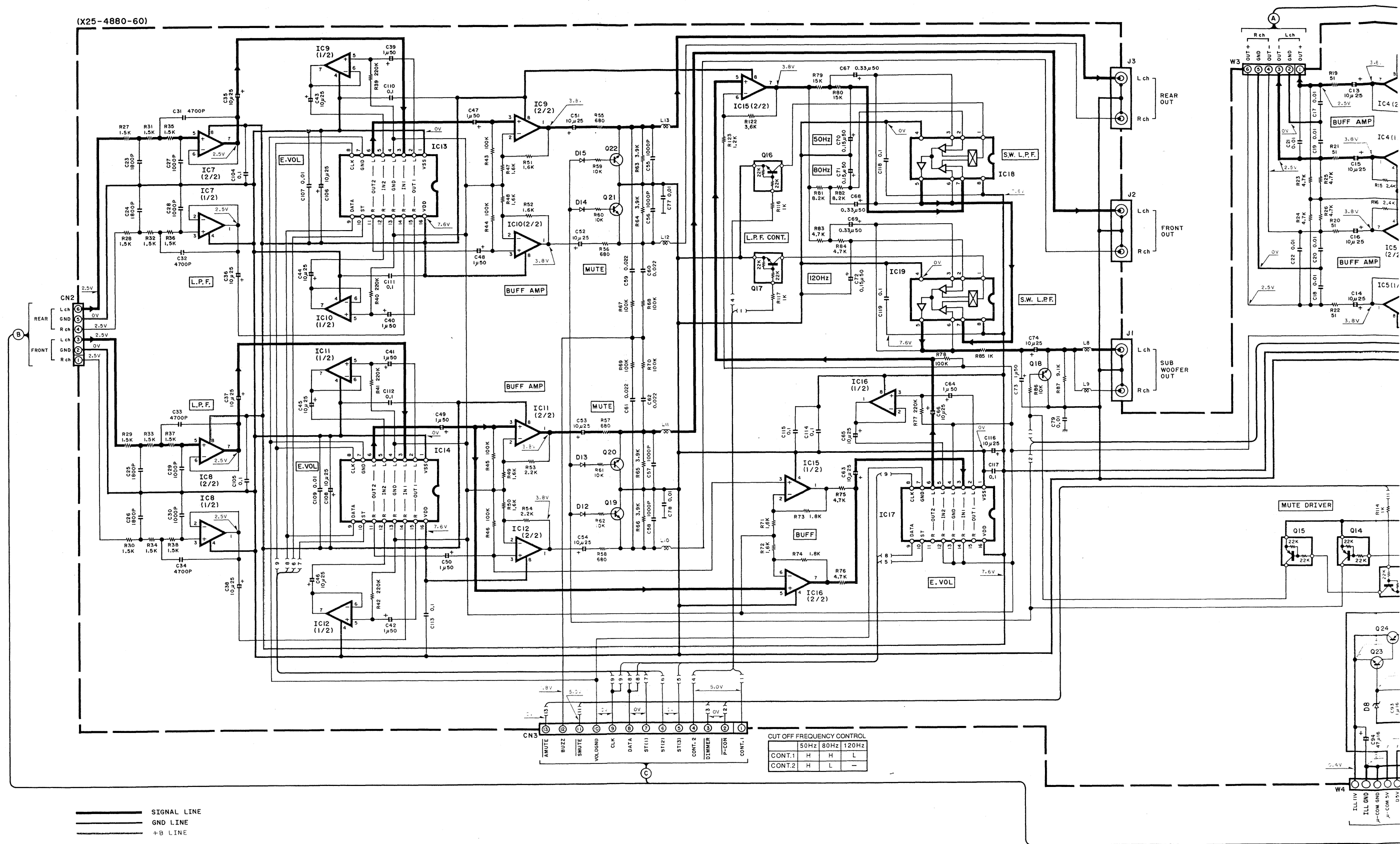
• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units. DC voltage shows at STOP condition after pressing power sw. () means PLAY condition.

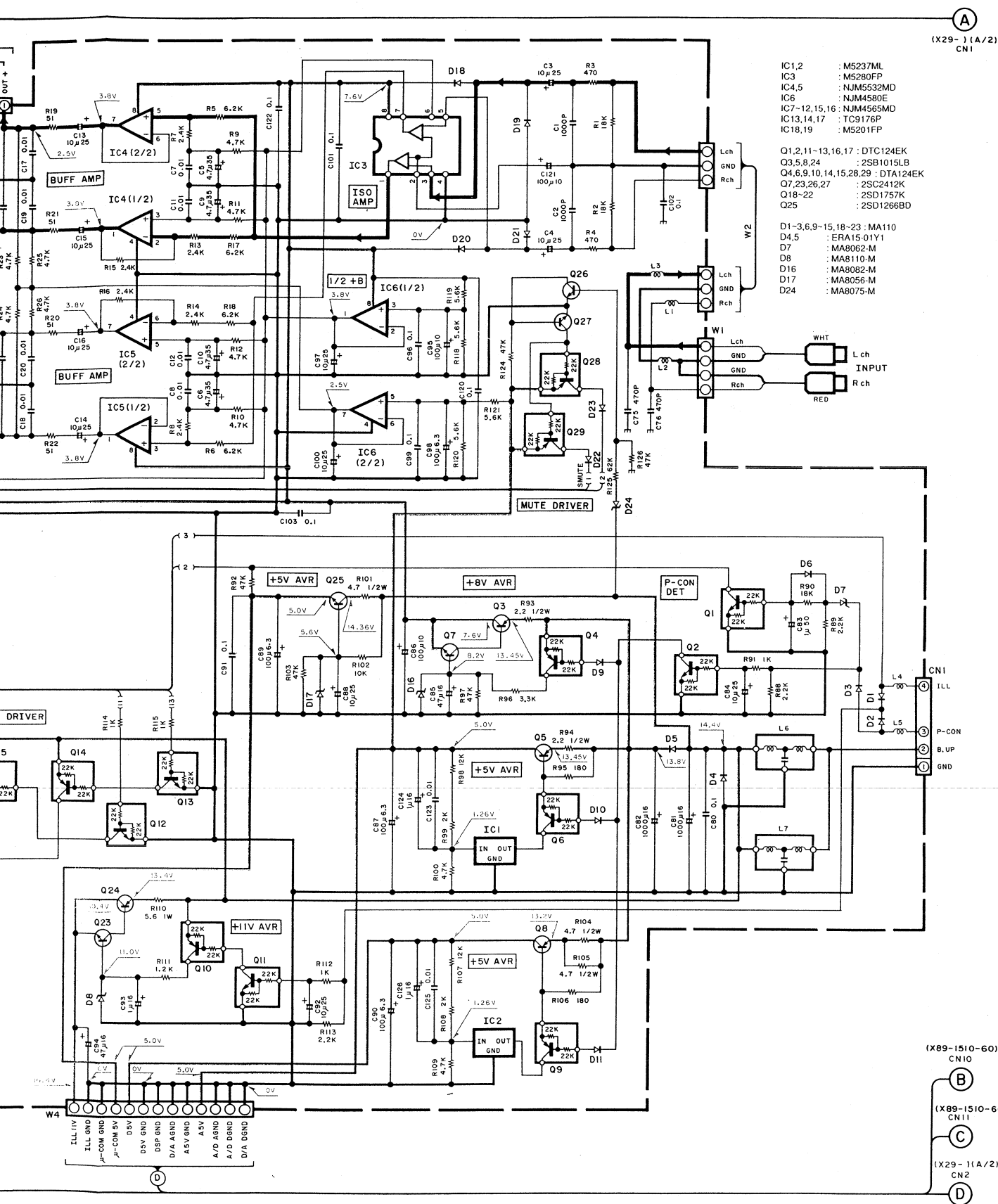
CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). * Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KDS-P100
KENWOOD

Y09-4150-60

(X25-4880-60)



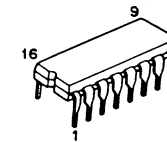
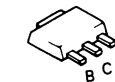


DTA124EK 2SC2412K
DTC124EK 2SD1757K
2SA1037K

2SB1188
2SD1766

2SB1015LB
2SD1266BD

TC9176P

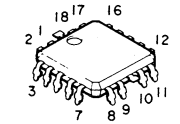
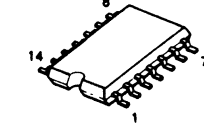
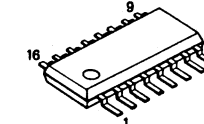
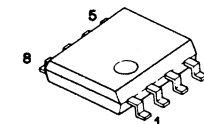


M5201FP NJM4580E
M5280FP NJM5532MD
NJM4565MD

TA2009F

TC74HC00AF
TC74HC74AF

MSM51C464AP80JS

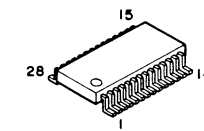
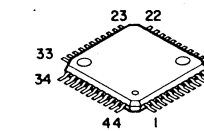
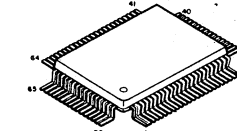
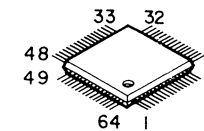


LC66516B-4987

LC83010NEG

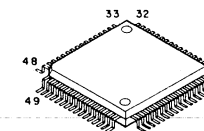
75008GB-702-3B4

CS5349-KS
TC9237BF



LC7582E

M5237ML



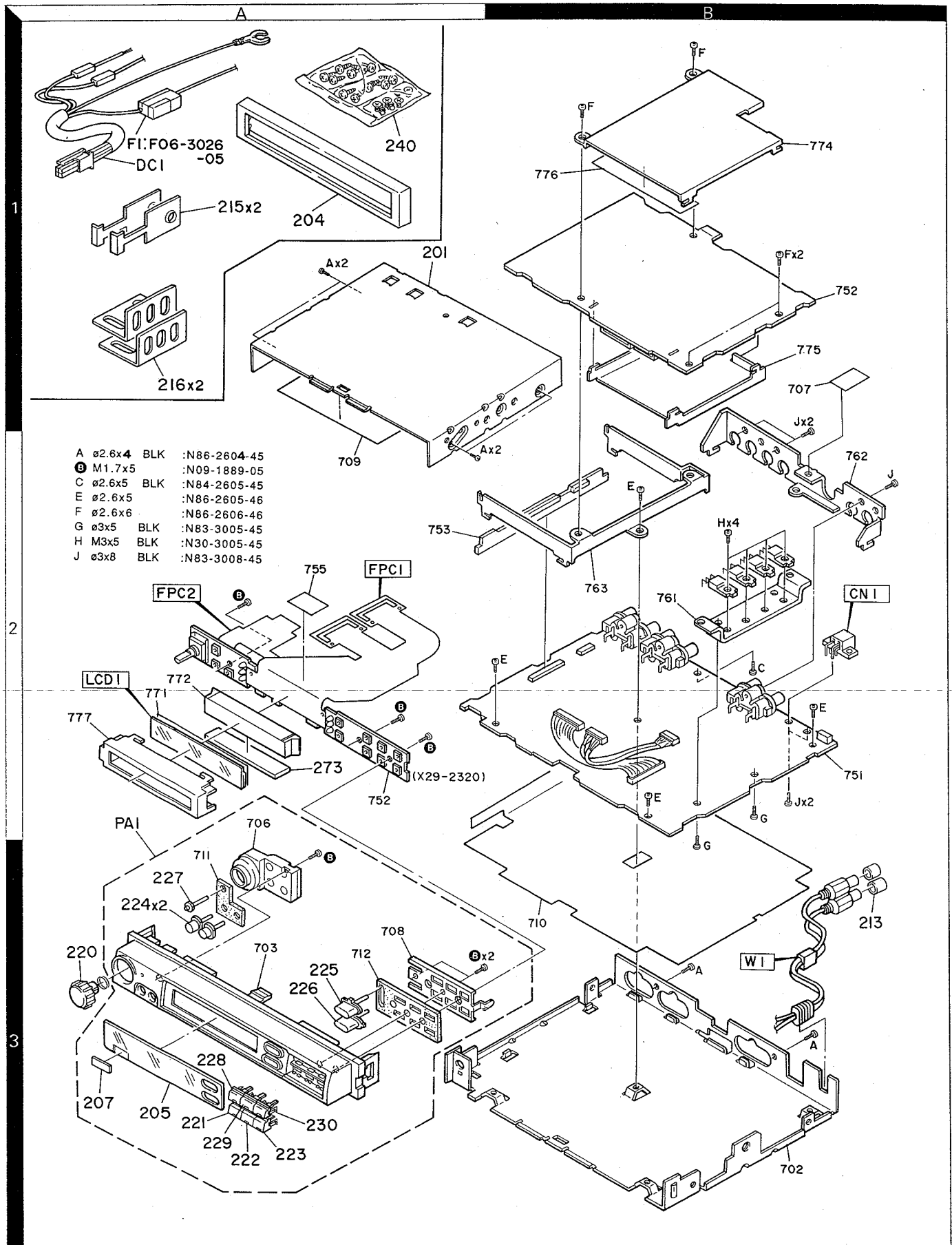
* DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). * Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KDS-P100
KENWOOD

Y09-4150-60

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
KDS-P100						
201	1A		A01-2520-02	METALLIC CABINET		
204	1A	*	A21-2319-03	DRESSING PANEL		
PA1	3A	*	A20-7824-23	PANEL ASSY		
205	3A	*	B10-1497-04	FRONT GLASS		
207	3A	*	B43-1208-04	BADGE		
-			B46-0100-20	WARRANTY CARD		
-			B58-0325-04	CAUTION CARD (FUSE)		
-			B58-1213-04	CAUTION CARD (EIA)		
-		*	B64-0211-00	INSTRUCTION MANUAL		
-		*	B64-0212-00	INSTRUCTION MANUAL		
DC1	1A		B30-3849-05	DC CORD		
213	3B		F29-0049-05	INSULATING COVER		
F1	1A		F06-3026-05	FUSE (3A)		
-		*	H01-9433-04	ITEM CARTON CASE		
-		*	H03-3503-04	OUTER CARTON CASE		
-			H10-3814-12	POLYSTYRENE FOAMED FIXTURE		
-			H12-2062-04	PACKING FIXTURE		
-			H12-2502-04	PACKING FIXTURE		
-			H25-0334-04	PROTECTION BAG (125X250X0.03)		
-			H25-0336-04	PROTECTION BAG (170X250X0.03)		
-			H25-0338-04	PROTECTION BAG (250X350X0.03)		
-			H25-1102-04	PROTECTION BAG (80X280X0.03)		
215	1A	*	J21-7383-04	MOUNTING HARDWARE		
216	1A		J21-3801-04	MOUNTING HARDWARE		
220	3A	*	K23-1018-03	KNOB (AUDIO)		
221	3A	*	K24-1096-03	KNOB (1)		
222	3A	*	K24-1097-03	KNOB (2)		
223	3A	*	K24-1098-03	KNOB (3)		
224	3A	*	K24-1100-14	KNOB (< >)		
225	3A	*	K24-1101-04	KNOB (SUB)		
226	3A	*	K24-1102-04	KNOB (KBS)		
227	3A	*	K24-1103-04	KNOB (RESET)		
228	3A	*	K24-1093-13	KNOB (POSI)		
229	3A	*	K24-1094-13	KNOB (EQ)		
230	3A	*	K24-1095-13	KNOB (BFCT)		
240	1A		N99-1503-05	SCREW SET		
A	1A		N86-2606-45	BINDING HEAD TAPTITE SCREW		
B	3A		N09-1889-05	TAPTITE SCREW (1.7X5 セイメツ フロ)		
E	2B		N86-2605-46	BINDING HEAD TAPTITE SCREW		
F	1B		N86-2606-46	BINDING HEAD TAPTITE SCREW		
ELECTRIC UNIT : X25-4880-60						
C1 ,2			CK73FB1H102K	CHIP C	1000PF	K
C3 ,4			CE04CW1E100M	ELECTRO	10UF	25WV
C5 ,6			CE04CW1V4R7M	ELECTRO	4R7UF	35WV
C7 ,8			CK73FB1H103K	CHIP C	0.010UF	K
C9 ,10			CE04CW1V4R7M	ELECTRO	4R7UF	35WV
C11 ,12			CK73FB1H103K	CHIP C	0.010UF	K
C13 -16			CE04CW1E100M	ELECTRO	10UF	25WV
C17 -22			CK73FB1H103K	CHIP C	0.010UF	K
C23 -26			CK73FB1H182K	CHIP C	1800PF	K

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

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Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
C27 -30			CK73FB1H102K	CHIP C 1000PF K		
C31 -34			CK73FB1H472K	CHIP C 4700PF K		
C35 -38			C90-2597-05	ELECTRO 10UF 16WV		
C39 -42			C90-2608-05	ELECTRO 1.0UF 50WV		
C43 -46			C90-2597-05	ELECTRO 10UF 16WV		
C47 -50			C90-2608-05	ELECTRO 1.0UF 50WV		
C51 -54			C90-2597-05	ELECTRO 10UF 16WV		
C55 -58			CK73FB1H102K	CHIP C 1000PF K		
C59 -62			CK73FB1H223KTA	CHIP C 0.022UF K		
C63			C90-2597-05	ELECTRO 10UF 16WV		
C64			C90-2608-05	ELECTRO 1.0UF 50WV		
C65 ,66			C90-2597-05	ELECTRO 10UF 16WV		
C67 -69			CE04CW1HR33M	ELECTRO R33UF 50WV		
C70 -72			CE04CW1HR15M	ELECTRO R15UF 50WV		
C73			C90-2608-05	ELECTRO 1.0UF 50WV		
C74			CE04CW1E100M	ELECTRO 10UF 25WV		
C75 ,76			CC73FCH1H471J	CHIP C 470PF J		
C77 -79			CK73EB1H103K	CHIP C 0.01UF K		
C80			CK73FB1H103K	CHIP C 0.010UF K		
C81 ,82			C90-2583-05	ELECTRO 100UF 16WV		
C83			C90-2608-05	ELECTRO 1.0UF 50WV		
C84			CE04CW1E100M	ELECTRO 10UF 25WV		
C85			CE04CW1C470M	ELECTRO 47UF 16WV		
C86			CE04CW1A101M	ELECTRO 100UF 10WV		
C87			CE04CW0J101M	ELECTRO 100UF 6.3WV		
C88			CE04CW1E100M	ELECTRO 10UF 25WV		
C89 ,90			CE04CW0J101M	ELECTRO 100UF 6.3WV		
C91			CK73EB1E104K	CHIP C 0.10UF K		
C92			CE04CW1E100M	ELECTRO 10UF 25WV		
C93			C92-0004-05	ELECTRO 1.0UF 16WV		
C94			CE04CW1C470M	ELECTRO 47UF 16WV		
C95			CE04CW1A101M	ELECTRO 100UF 10WV		
C96			CK73EB1E104K	CHIP C 0.10UF K		
C97			CE04CW1E100M	ELECTRO 10UF 25WV		
C98			CE04CW0J101M	ELECTRO 100UF 6.3WV		
C99			CK73EB1E104K	CHIP C 0.10UF K		
C100			CE04CW1E100M	ELECTRO 10UF 25WV		
C101-105			CK73EB1E104K	CHIP C 0.10UF K		
C106			CE04CW1E100M	ELECTRO 10UF 25WV		
C107			CK73FB1H103K	CHIP C 0.010UF K		
C108			CE04CW1E100M	ELECTRO 10UF 25WV		
C109			CK73FB1H103K	CHIP C 0.010UF K		
C110-115			CK73EB1E104K	CHIP C 0.10UF K		
C116			C90-2597-05	ELECTRO 10UF 16WV		
C117			CK73FB1H103K	CHIP C 0.010UF K		
C118-120			CK73EB1E104K	CHIP C 0.10UF K		
C121			CE04CW1A101M	ELECTRO 100UF 10WV		
C122			CK73EB1E104K	CHIP C 0.10UF K		
C123			CK73FB1H103K	CHIP C 0.010UF K		
C124			C92-0004-05	ELECTRO 1.0UF 16WV		
C125			CK73FB1H103K	CHIP C 0.010UF K		
C126			C92-0004-05	ELECTRO 1.0UF 16WV		
CN1	2B		E08-0413-05	RECTANGULAR RECEPTACLE		
J1 -3			E13-2201-05	PHONE JACK (2P)		

PARTS LIST

× New Parts

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Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
W1	3B	*	E30-4004-05	AUDIO CORD		
LH1			J19-4316-05	HOLDER		
L1 -5			L92-0302-05	CHIP FERRITE		
L6 ,7			L79-0914-05	LC FILTER		
L8 -13			L92-0302-05	CHIP FERRITE		
C	2B		N84-2605-45	PAN HEAD TAPTITE SCREW		
G	3B		N83-3005-45	PAN HEAD TAPTITE SCREW		
H	2B		N30-3005-45	PAN HEAD MACHINE SCREW		
J	2B		N83-3008-45	PAN HEAD TAPTITE SCREW		
R1 ,2			RK73FB2A183J	CHIP R 18K J 1/10W		
R3 ,4			RK73FB2A471J	CHIP R 470 J 1/10W		
R5 ,6			RK73FB2A622J	CHIP R 6.2K J 1/10W		
R7 ,8			RK73FB2A242J	CHIP R 2.4K J 1/10W		
R9 -12			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R13 -16			RK73FB2A242J	CHIP R 2.4K J 1/10W		
R17 ,18			RK73FB2A622J	CHIP R 6.2K J 1/10W		
R19 -22			RK73FB2A510J	CHIP R 51 J 1/10W		
R23 -26			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R27 -38			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R39 -42			RK73FB2A224J	CHIP R 220K J 1/10W		
R43 -46			RK73FB2A104J	CHIP R 100K J 1/10W		
R47 -50			RK73FB2A162J	CHIP R 1.6K J 1/10W		
R51 -54			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R55 -58			RK73FB2A681J	CHIP R 680 J 1/10W		
R59 -62			RK73FB2A103J	CHIP R 10K J 1/10W		
R63 -66			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R67 -70			RK73FB2A104J	CHIP R 100K J 1/10W		
R71 ,72			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R73 ,74			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R75 ,76			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R77			RK73FB2A224J	CHIP R 220K J 1/10W		
R78			RK73FB2A104J	CHIP R 100K J 1/10W		
R79 ,80			RK73FB2A153J	CHIP R 15K J 1/10W		
R81 ,82			RK73FB2A822J	CHIP R 8.2K J 1/10W		
R83 ,84			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R85			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R86			RK73FB2A103J	CHIP R 10K J 1/10W		
R87			RK73FB2A912J	CHIP R 9.1K J 1/10W		
R88 ,89			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R90			RK73FB2A183J	CHIP R 18K J 1/10W		
R91			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R92			RK73FB2A473J	CHIP R 47K J 1/10W		
R93 ,94			R92-2021-05	CHIP R 2.2 J 1/2W		
R95			RK73FB2A181J	CHIP R 180 J 1/10W		
R96			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R97			RK73FB2A473J	CHIP R 47K J 1/10W		
R98		*	R92-2035-05	CHIP R 12K D 1/10W		
R99			R92-2029-05	CHIP R 2.0K D 1/10W		
R100			R92-2032-05	CHIP R 4.7K D 1/10W		
R101		*	R92-1262-05	METAL GLAZE 4.7 J 1/2W		
R102			RK73FB2A103J	CHIP R 10K J 1/10W		
R103			RK73FB2A473J	CHIP R 47K J 1/10W		
R104, 105		*	R92-1262-05	METAL GLAZE 4.7 J 1/2W		



indicates safety critical components.

PARTS LIST

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Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
R106			RK73FB2A181J	CHIP R 180 J 1/10W		
R107		*	R92-2035-05	CHIP R 12K D 1/10W		
R108			R92-2029-05	CHIP R 2.0K D 1/10W		
R109			R92-2032-05	CHIP R 4.7K D 1/10W		
R110		*	R92-2020-05	METAL GLAZE 5.6 J 1W		
R111			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R112			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R113			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R114-117			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R118-121			RK73FB2A562J	CHIP R 5.6K J 1/10W		
R122, 123			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R124			RK73FB2A124J	CHIP R 120K J 1/10W		
D1 -3			MA110	DIODE		
D4 ,5			ERA15-01Y1	DIODE		
D6			MA110	DIODE		
D7			MA8062-M	ZENER DIODE		
D8			MA8110-M	ZENER DIODE		
D9 -15			MA110	DIODE		
D16			MA8082-M	ZENER DIODE		
D17			MA8056-M	ZENER DIODE		
D18 -23			MA110	DIODE		
IC1 ,2		*	M5237ML	IC(VOLTAGE REGULATOR)		
IC3			M5280FP	IC(ISO AMP)		
IC4 ,5			NJM5532MD	IC(OP AMP)IFIER)		
IC6			NJM4580E	IC(OP AMP)		
IC7 -12			NJM4565MD	IC(OP AMP X2)		
IC13, 14			TC9176P	IC(2CH ELECTRONIC VOLUME)		
IC15, 16			NJM4565MD	IC(OP AMP X2)		
IC17			TC9176P	IC(2CH ELECTRONIC VOLUME)		
IC18, 19			M5201FP	IC(OP AMPLIFIER)		
Q1 ,2			DTC124EK	DIGITAL TRANSISTOR		
Q3			2SB1015LB	TRANSISTOR		
Q4			DTA124EK	DIGITAL TRANSISTOR		
Q5			2SB1015LB	TRANSISTOR		
Q6			DTA124EK	DIGITAL TRANSISTOR		
Q7			2SC2412K	TRANSISTOR		
Q8			2SB1015LB	TRANSISTOR		
Q9 ,10			DTA124EK	DIGITAL TRANSISTOR		
Q11 -13			DTC124EK	DIGITAL TRANSISTOR		
Q14 ,15			DTA124EK	DIGITAL TRANSISTOR		
Q16 ,17			DTC124EK	DIGITAL TRANSISTOR		
Q18 -22			2SD1757K	TRANSISTOR		
Q23			2SC2412K	TRANSISTOR		
Q24			2SB1015LB	TRANSISTOR		
Q25			2SD1266BD	TRANSISTOR		
Q26 ,27			DTC124EK	DIGITAL TRANSISTOR		
Q28			DTA124EK	DIGITAL TRANSISTOR		
CONTROL UNIT : X29-2320-60						
LCD1	2A	*	B38-0568-05	LIQUID CRYSTAL		
PL1 ,2			B30-1305-05	LAMP (5.5V .125A)		
PL3 -6			B30-1306-05	LAMP (5.5V .125A)		
C1 -4		*	C92-1029-05	ELECTRO 100UF 6.3WV		
C5 -7			CK73EB1E104K	CHIP C 0.10UF K		
C8			C92-1020-05	ELECTRO 10UF 6.3WV		

PARTS LIST

× New Parts

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C9			CK73FF1E104Z	CHIP C 0.1UF Z		
C10			CK73FB1H102K	CHIP C 1000PF K		
C11 ,12			CC73FCH1H101J	CHIP C 100PF J		
C13			CK73FB1H102K	CHIP C 1000PF K		
C14			CC73FCH1H101J	CHIP C 100PF J		
C15			CC73FCH1H680J	CHIP C 68PF J		
C16			CC73FCH1H390J	CHIP C 39PF J		
C17 -19			CC73FCH1H101J	CHIP C 100PF J		
C20 -22			CK73EB1E104K	CHIP C 0.10UF K		
C23			C92-1020-05	ELECTRO 10UF 6.3WV		
C24			CK73EB1E104K	CHIP C 0.10UF K		
C25			CC73FCH1H101J	CHIP C 100PF J		
C26 ,27			CK73EB1E104K	CHIP C 0.10UF K		
C30 ,31			CC73FCH1H220J	CHIP C 22PF J		
C32 ,33			CK73FB1H103K	CHIP C 0.010UF K		
C34			CC73FCH1H330J	CHIP C 33PF J		
C35			CC73FCH1H101J	CHIP C 100PF J		
C36			CK73EB1E104K	CHIP C 0.10UF K		
C37		*	C92-1029-05	ELECTRO 100UF 6.3WV		
C38 ,39			CK73EB1E104K	CHIP C 0.10UF K		
C40 ,41		*	C92-1029-05	ELECTRO 100UF 6.3WV		
C42			CK73EB1E104K	CHIP C 0.10UF K		
C43		*	C92-1029-05	ELECTRO 100UF 6.3WV		
C44 ,45			CK73EB1E104K	CHIP C 0.10UF K		
C46 ,47		*	C92-1029-05	ELECTRO 100UF 6.3WV		
C48		*	C92-1028-05	ELECTRO 47UF 6.3WV		
C49			CK73EB1E104K	CHIP C 0.10UF K		
C50		*	C92-1028-05	ELECTRO 47UF 6.3WV		
C51			CK73EB1E104K	CHIP C 0.10UF K		
C52 ,53			C92-1018-05	ELECTRO 1UF 50WV		
C54			CC73FCH1H101J	CHIP C 100PF J		
C55			CK73FB1H273K	CHIP C 0.027UF K		
C56		*	C92-1029-05	ELECTRO 100UF 6.3WV		
C57			CK73FB1H223KTA	CHIP C 0.022UF K		
C58			CK73FB1H681K	CHIP C 680PF K		
C59			CC73ECH1H101J	CHIP C 100PF J		
C60			CC73FCH1H101J	CHIP C 100PF J		
C61			CC73ECH1H101J	CHIP C 100PF J		
C62 ,63			CC73FCH1H101J	CHIP C 100PF J		
C64			CC73FCH1H680J	CHIP C 68PF J		
C65			CC73FCH1H101J	CHIP C 100PF J		
C66			CK73EB1E104K	CHIP C 0.10UF K		
C67 -70			CC73FCH1H330J	CHIP C 33PF J		
C71			C91-0937-05	BACKUP 0.047F 5.5WV		
C72			CK73EB1E104K	CHIP C 0.10UF K		
C73			CK73FB1H103K	CHIP C 0.010UF K		
C74			CK73EB1H103K	CHIP C 0.01UF K		
C75 -79			CC73FCH1H101J	CHIP C 100PF J		
C80 ,81			CK73FB1H103K	CHIP C 0.010UF K		
C82 -119			CK73EB1H103K	CHIP C 0.01UF K		
C121,122			CK73EB1H103K	CHIP C 0.01UF K		
273	2A	*	E29-1374-04	CONDUCTIVE RUBBER		
FPC1	2A	*	J84-0032-03	FLEXIBLE PRINTED WIRING BOARD		

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
FPC2	2A	*	J84-0033-03	FLEXIBLE PRINTED WIRING BOARD		
L1 -12			L92-0302-05	CHIP FERRITE		
L13 -17			L92-0131-05	FERRITE CORE		
L18			L92-0302-05	CHIP FERRITE		
L19			L92-0131-05	FERRITE CORE		
L20 -23			L79-0914-05	LC FILTER		
X1			L77-2011-05	CRYSTAL RESONATOR(16.9344MHZ)		
X2 ,3			L78-0505-05	RESONATOR		
R1			RK73FB2A510J	CHIP R 51 J 1/10W		
R2			RK73FB2A104J	CHIP R 100K J 1/10W		
R3 ,4			RK73EB2B301J	CHIP R 300 J 1/8W		
R5 ,6			RK73EB2B471J	CHIP R 470 J 1/8W		
R7			RK73FB2A510J	CHIP R 51 J 1/10W		
R8			RK73FB2A301J	CHIP R 300 J 1/10W		
R9			RK73EB2B301J	CHIP R 300 J 1/8W		
R10 ,11			RK73FB2A301J	CHIP R 300 J 1/10W		
R12 -14			RK73FB2A471J	CHIP R 470 J 1/10W		
R15 -18			RK73FB2A301J	CHIP R 300 J 1/10W		
R19			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R20			RK73FB2A473J	CHIP R 47K J 1/10W		
R21			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R22			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R23			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R24			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R25			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R26 ,27			R92-2011-05	CHIP R 11 J 1W		
R28			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R29 -32			RK73FB2A563J	CHIP R 56K J 1/10W		
R33			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R34 -37			RK73FB2A473J	CHIP R 47K J 1/10W		
R38 -44			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R45			RK73FB2A513J	CHIP R 51K J 1/10W		
R46			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R47			RK73FB2A473J	CHIP R 47K J 1/10W		
R48			RK73FB2A303J	CHIP R 30K J 1/10W		
R49 ,50			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R51			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R52 ,53			RK73FB2A104J	CHIP R 100K J 1/10W		
R54 -56			RK73FB2A473J	CHIP R 47K J 1/10W		
R57			RK73FB2A432J	CHIP R 4.3K J 1/10W		
R58			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R59 -61			RK73FB2A103J	CHIP R 10K J 1/10W		
R62			RK73EB2B101J	CHIP R 100 J 1/8W		
R63 -70			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R71			RK73FB2A473J	CHIP R 47K J 1/10W		
R100-103			RK73FB2A301J	CHIP R 300 J 1/10W		
W1 -5			R92-2053-05	CHIP R 0 J 1/8W		
S1 -6			S40-1606-05	PUSH SWITCH		
S7 -11			S40-1607-05	PUSH SWITCH		
S12		*	T99-0407-05	SPEED DETECTOR		
D1 -9			MA110	DIODE		
IC1			CS5349-KS	IC(A/D CONVERTER)		

PARTS LIST

× New Parts

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Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
IC2			TC74HC00AF	IC(2-INPUT NAND GATE)		
IC3			TC74HC74AF	IC(DUAL D-TYPE FLIP FLOP)		
IC4		*	LC83010NEG	IC(DSP)		
IC5		*	LC66516B-4987	IC(CONTROLLER)		
IC6 ,7			MSM51C464AP80JS	IC(DRAM)		
IC8 ,9		*	TC9237BF	IC(D/A CONVERTER)		
IC10,11			TA2009F	IC(FILTER)		
IC12			PST572E-MT	IC(RESET)		
IC13			PST529F-MT	IC(RESET)		
IC14		*	75008GB-702-3B4	IC		
IC15			LC7582E	IC(LCD DRIVER)		
Q1			2SC2412K	TRANSISTOR		
Q2 ,3			DTC124EK	DIGITAL TRANSISTOR		
Q4 -6			DTA124EK	DIGITAL TRANSISTOR		
Q7			DTC124EK	DIGITAL TRANSISTOR		
Q8			2SB1188	TRANSISTOR		
Q9			DTC124EK	DIGITAL TRANSISTOR		
Q10			2SB1188	TRANSISTOR		
Q11			DTC124EK	DIGITAL TRANSISTOR		
Q12			DTA124EK	DIGITAL TRANSISTOR		
Q13 ,14			2SD1766	TRANSISTOR		
Q15			DTC124EK	DIGITAL TRANSISTOR		
Q16 ,17			2SA1037K	TRANSISTOR		
Q18			DTC124EK	DIGITAL TRANSISTOR		

KDS-P100

SPECIFICATIONS

DSP Section

A/D Converter	64 Times Over Sampling, $\Delta \Sigma$ Modulation
D/A Converter	1Bit, 192 Times Over Sampling, $\Delta \Sigma$ Modulation
Equalizer Center frequency	40Hz, 100Hz, 250Hz, 585Hz, 1.25kHz, 5kHz, 16kHz
Equalizing Range	-12dB~+12dB
Frequency Response	20Hz~20kHz (± 1 dB)
Total Harmonic Distortion	0.005% (1kHz)
Signal to Noise Ratio	100dB
Dynamic Range	96dB

Audio Section

Input Impedance	10k Ω
Preout Level	1.0V

General

Operating Voltage	14.4V (11V~16V)
Current Consumption (MAX)	0.9A
Installation Size	178mm (W) x 25mm (H) x 140mm (D) 7inch (W) x 1inch (H) x 5-1/2inch (D)
Weight	0.9kg 2.0lbs

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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